



Updates from the Field TECHNICAL NOTES

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CONDUCTING DISEASE SURVEILLANCE AT THE PROVINCIAL AND DISTRICT LEVELS

Background

In 1999, Management Sciences for Health, through its Program Management Technical Assistance Team (PMTAT), assisted Bago City in setting up a community-based disease surveillance system. Bago City, which is a Matching Grant Program (MGP) beneficiary, is one of the component cities of Negros Occidental, a province located in the Western Visayas Region.

With the success of Bago City's disease surveillance system, other local government units, such as Cabanatuan City in the north and Bislig City in the south, were encouraged to embark on the same initiative. More importantly, the initiative also caught fire at the provincial and district levels. In 2001, the Province of Negros Occidental set up a province-wide disease surveillance system, while the Sta. Bayabas District in Negros Oriental established its own in 2002.

The Negros Occidental Health Surveillance System (NOCHESS)

The idea of setting up a provincial-level disease surveillance system was presented to the Provincial Governor in September 2001. Bago City's Mayor and City Health Officer, the Assistant Provincial Health Officer, and representatives from MSH participated in the exploratory meeting. As a result of this meeting, an interim provincial surveillance team was immediately organized, and trained by the Bago City Surveillance Team.

In January 2002, a new team was constituted by virtue of a Provincial Health Office (PHO) order. The team is composed of a medical doctor (team leader), three nurses, a medical technologist, and a sanitary engineer. The team was oriented on disease outbreak response and outbreak investigation and on the mechanics of the NOCHESS.

The NOCHESS was established primarily to enable the PHO to track the occurrence of common and preventable diseases, with the aim of instituting appropriate and timely interventions. Only seven diseases are being monitored, so as not to overload the



Gov. Joseph Marañon delivering his message during the first Epidemiological Conference organized by the Provincial Health Office.

new system. These diseases, which were selected based on consultations with the City and Municipal Health Officers, are dengue hemorrhagic fever, neonatal tetanus, typhoid fever, measles, meningococcemia, acute flaccid paralysis, and diarrhea.

Flow of Information

Data for the NOCHESS come from the regional hospital, provincial hospital, Bacolod City Hospital, 11 district hospitals, and 4 private hospitals in Bacolod City. Each team member is assigned a hospital or district health zone to monitor.

The provincial surveillance team collects data from the private hospitals and the regional hospital every week. Within the hospital system, sentinel nurses have been identified, and they summarize the hospital data and sign the relevant reports submitted to the PHO. Assisting the sentinel nurses are the records officers, who, along with the nurses, were also trained on data collection and oriented on the NOCHESS.

The provincial, city, and district hospitals, likewise submit reports on a weekly basis. If any one fails to submit, the concerned team member assigned to the particular zone follows up. These hospitals' chief nurses serve as the sentinel nurses responsible for validating the data, if necessary, and preparing the weekly reports.



MATCHING GRANT PROGRAM
Department of Health

The surveillance officers enter the data collected in a logbook. Every Wednesday, a surveillance officer from Bago City collects the raw data from the PHO for processing and analysis. This is only an interim arrangement pending the training of the NOCHESS team on the use of EpiInfo, the software used for data entry and processing. Its immediate output is a graph that will show if there is any clustering of cases. In the event of clustering of cases, Bago City immediately prepares a communication to the PHO, and the PHO, in turn, informs the concerned local government unit (LGU) and requests it to coordinate with its local disease outbreak response team for the necessary interventions. The PHO likewise requests feedback on the actions taken by the LGU to address the problem. To date, the system has detected clustering of cases of dengue, typhoid fever, and neonatal tetanus in selected barangays.

In addition, Bago City prepares quarterly reports for the PHO for dissemination to the following: Governor, Municipal/City Mayors, Municipal/City Health Officers, chiefs of hospitals, Center for Health Development Director, and MSH. The team leader of the provincial surveillance team reviews the quarterly reports before they are disseminated. Eventually, the team leader will be responsible for data analysis and report preparation.

As part of its information dissemination efforts, the NOCHESS team convenes monthly meetings to update the City/Municipal Health Officers, chiefs of hospitals, and chief nurses and quarterly meetings to update the sanitary inspectors. Members of the team also attend weekly team meetings and Bago City's epidemiological conferences.

The Sta. Bayabas District Disease Surveillance System

Negros Oriental's Sta. Bayabas District, which is composed of the Municipalities of Sta. Catalina and Basay and the City of Bayawan, was the first district to participate in the MGP. It was also the first district to establish a disease surveillance system.

The district's decision to set up a disease surveillance system was born out of the need to: (1) improve disease reporting and recording process, (2) ensure early detection of disease outbreaks, (3) generate timely data, (4) assist health workers assess the adequacy of preventive measures being undertaken, and (5) demonstrate to local leaders the magnitude of the health problems and, thus, mobilize more resources for health programs and services. The system monitors 15 diseases, namely, acute flaccid paralysis, animal bite (as a proxy indicator for rabies), dengue H-fever, diarrheal diseases, diphtheria, measles, non-neonatal tetanus, neo-natal tetanus, pertussis, leprosy, meningococcal disease, viral hepatitis, typhoid fever, malaria, and filariasis (deformities).

At present, the reporting units consist of the district hospital, the Rural Health Units, and the Barangay Health Stations. At the hospital level, the hospital sentinel surveillance officers

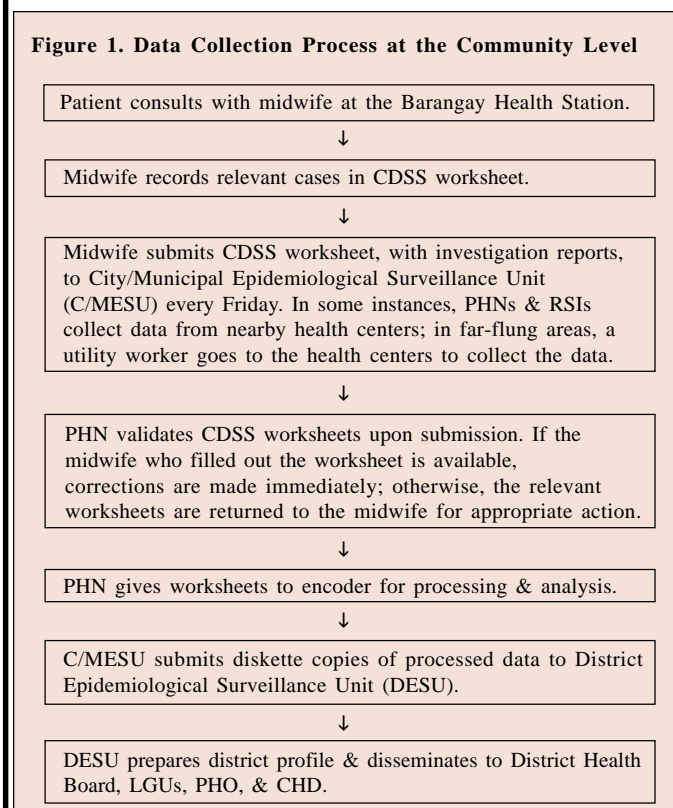
Box 1. Steps Leading to the Establishment of the Sta. Bayabas District Disease Surveillance System

1. A group composed of the District Health Officer, District Health Nurse, District Health Staff, Municipal/City Health Officers (M/CHOs), & Public Health Nurses (PHNs) went on a study tour to Bago City to learn about its CDSS (October 26-27, 2001).
2. Disease surveillance teams at district & city/municipal levels were organized:
 District Health Office: District Health Officer, District Nurse, Midwife, Statistician (encoder district), Computer Operator (encoder-hospital);
 Bayawan: MHO, PHN, Rural Sanitary Inspector (RSI);
 Basay: MHO, PHN, RSI, Midwife;
 Sta. Catalina: MHO, PHN, Medical Technologist, Midwife, RSI, encoder;
 Provincial Health Office: Provincial Sanitary Inspector, encoder;
 District Hospital: Chief Nurse, encoder.
3. Members of surveillance teams attended a training course on basic epidemiology & surveillance/EpiInfo in Bago City, courtesy of CHD VII (March 10-15, 2002).
4. The DHO & LGUs allocated working space & equipment for their respective surveillance units.
5. The city/municipal councils enacted a resolution supporting the CDSS.
6. Case definitions were finalized & translated into the local language (May 2002).
7. CDSS forms were finalized (May 2002).
8. CDSS forms were distributed to the surveillance units (June 2002).
9. Barangay Health Workers were oriented on the CDSS & the case definitions (July 2002).
10. Surveillance units commenced reporting of cases (July 2002).

review the admitting logbooks and other relevant hospital records to identify cases to be included in the CDSS worksheet. The worksheet is forwarded to the hospital encoder daily for immediate encoding and processing of data. At the end of each week, the District Disease Surveillance Officer, who is also the District Health Officer, analyzes and interprets the processed data and makes the necessary recommendations. LGUs are supplied with copies of the surveillance reports during the monthly City Health Board meetings and the quarterly District Health Board meetings. Data from two primary hospitals will eventually be collected.

The LGU encoders currently conduct data encoding at the District Epidemiological Surveillance Unit (DESU) every Tuesday under the supervision of the DESU's encoders, since the LGU encoders are not yet very familiar with the use of EpiInfo. It is assumed that after two months of close supervision, the LGU encoders will be adept in data entry, processing, and analysis. Thereafter, only diskette copies of the processed data will be forwarded to the district surveillance unit for further analysis and consolidation into a district profile.

Figure 1 summarizes the data collection process at the community level.



If there is an indication of an outbreak, the LGU's epidemiological surveillance unit immediately notifies its Outbreak Response Team for the institution of appropriate measures. The Outbreak Response Team at the higher levels may also be called upon for assistance depending on the magnitude of the problem. The LGU is expected to inform the DESU of actions taken by its Outbreak Response Team.

To date, the system was able to detect a hepatitis A outbreak in one barangay in Bayawan City. In response, the local government organized community assemblies, which the barangay captains attended; conducted food handlers' classes; undertook a massive effort to construct latrines; and coordinated with the surveillance units at higher levels for logistics support. Confirmatory diagnosis was made possible through the Regional Epidemiological Surveillance Unit. Of



LGU personnel reviewing and encoding data under the supervision of the District Health Office Staff.

the 19 suspected cases, 16 blood samples were collected, of which 50% were found positive for hepatitis A. It is important to note that early detection was made possible through the aid of the case definitions, which the members of the surveillance teams learned during their five-day course on basic epidemiology and surveillance.

Challenges in Implementing Disease Surveillance

Like any young system, the Negros Occidental Health Surveillance System is dealing with some problems. Its smooth implementation has been hampered because its establishment was not foreseen, so it has no specific allocation in the LGU budget for the current year. The surveillance unit has to rely on whatever resources the PHO can make available. The absence of a dedicated space, computer, and vehicle to meet the requirements of the system has affected the efficiency and effectiveness of the surveillance team. These problems should be overcome when the activity becomes part of the LGU's regular budget in the succeeding years.

The Sta. Bayabas District Disease Surveillance System has grappled with other problems, including: (1) the lukewarm attitude of some midwives, because they regard the initiative as additional work, (2) investigation forms not being properly filled out because of some midwives' lack of familiarity with the case definitions, (3) unavailability of funds for laboratory confirmation of cases, (4) delay in submission of forms, (5) lack of forms, (6) poor mobility of surveillance teams due to unavailability of vehicle, (7) some members of the LGU surveillance teams also serving as data encoders, which hampers their efficiency, and (8) no computer assigned for the sole use of the surveillance units.

Benefits of Disease Surveillance

Despite the issues these two systems face, the majority of their staff members realize the benefits of disease surveillance. Not only has it improved reporting, it has also made political leaders appreciate and understand health problems better and enabled LGUs to respond immediately with the required interventions. It has also fostered collaboration between the government and the private sector, particularly in the case of the NOCHESS, which involves private and public hospitals collecting data.

The experiences of Negros Occidental and the Sta. Bayabas District have highlighted the importance of collaboration among LGUs to optimize the use of available resources. On one hand, the PHO of Negros Occidental tapped the districts to collect data, while relying on the expertise of Bago City to process and analyze the data collected. The Sta. Bayabas District Disease Surveillance System, on the other hand, has three municipalities collaborating for a common goal. A strong, enlightened, and committed political leadership has ensured the success of disease surveillance in these areas.

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